

WORKING PAPER

23 June 1970

MEMORANDUM FOR: Comptroller, OSA
SUBJECT : Annual Report to PEIAB
REFERENCE : Memo from Comptroller, OSA dtd 15 June 1970
25X1A2g [REDACTED] 9308); Same Subj.

1. This report is being submitted on paragraph 2c of above reference.

2. The first indication that OSA was getting involved with the acquisition of the Apochromatic Petzval Lens for the Director NRO's office was on 20 March 1970. At this time a cable was received from the NRO's office indicating that this was to be accomplished. The contractor for this effort 25X1A5a2 is [REDACTED] who submitted their proposal to the NRO's office on the 25th of March. After the proposal was received in OSA an intensive review and analysis was made by this office. It was then felt by this office at this time that certain areas were not covered by the basic proposal. These areas were (1) flight tests, (2) an isolation system, (3) additional glass blanks and (4) a system analysis. After an addendum was received from the 25X9A5 contractor on the 29th of April a meeting was requested with [REDACTED]. A meeting was held at NPIC on the 8th of May with [REDACTED] and this office. 25X9A5 items 25X1A5a2 were discussed at some length and it was decided by [REDACTED]

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that these additional options weren't necessary. The NRO's office obligated \$290,000 for this effort and at this meeting it was stated that it was not mandatory but it would be nice to have an extra set of glass blanks and flight tests if possible through negotiations but to stay with the \$290,000 figure.

3. This effort for the Apochromatic Petzval Lens was negotiated at the Contractor's plant on 18 and 19 May 1970. An extra set of glass blanks but no flight test were negotiated for within the \$290,000 figure. The contractor started their efforts on this contract on the 20th of May. The following items are also to be delivered by the contractor:

- (1) Design, fabricate, and test lens by 19 Feb 1971.
- (2) Conduct Thermal Tests and submit an Engineering Report by 19 March 1971.
- (3) Install and laboratory test lens in Delta III camera system by 20 July 1971.

4. The contractor shall also furnish to this office the following tasks:

- (1) Lens Static Specifications Report by 20 July 1970.
- (2) Systems Dynamic Criteria Developed by 20 Aug 1970.
- (3) Reliability Criteria Developed by 20 Aug 1970.
- (4) Error-Budget Study Report on the Apochromatic Petzval Lens by 22 July 1970.

R&D Submission

The basic purpose or background for the development of an apochromatic Petzval lens was to fully test and exploit the capabilities of the new color films being produced by 25X1A5a2 film manufacturers, the most recent being [REDACTED]

25X1A5a2

[REDACTED] The most immediate utilization of this film would be by the various photo reconnaissance satellites, however data obtained will be equally applicable to aeronautical photo reconnaissance systems.

Specifically, a decision was made by NRO to develop a 24" focal length apochromatic Petzval lens for the Delta III camera and then to fly this photo configuration in U-2's to obtain data (i.e. color balance or fidelity, exposure settings, type of targets recommended for color photography, additional information which can be obtained through use of color photography, etc.). The information and test data obtained by flying over specific areas under controlled conditions (i.e., various type targets, weather conditions, exposures etc.) will be feed back into the reconnaissance and intelligence community to fully determine the capabilities and potential of color films when used with a color corrected lens system.

25X1A9a
[REDACTED]